

China's Expeditionary Progression

**A Monograph
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Abstract

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China has invested in military modernization efforts to transform its defense and logistic systems to protect its economic interests abroad. In order for China to execute expeditionary operations effectively, it needs significant expeditionary capabilities. Thus, a change in China's expeditionary capacity will indicate if they are progressing towards a more intensive, expeditionary force or maintaining a small expeditionary force as a measure to secure interests abroad.

This study seeks to answer: What expeditionary capabilities is China building and how is it employing them? Are there any indicators that China possesses expeditionary capabilities and have the logistical support structure to sustain its endeavors abroad? To answer these questions, this monograph uses a qualitative case study methodology to assess China's expeditionary capabilities. The analysis consists of three expeditionary case studies (the Tsunami Humanitarian Assistance/Disaster Relief of 2004, the British invasion of the Falklands, the Sierra Leone invasion of 2000), progressing in intensity, to test the current expeditionary stance of the PLA. It defines the terms "expeditionary capabilities" and "expeditionary logistics." Next, it identifies problems associated with sustaining expeditionary operations, creating evaluation criteria that are the best leading indicators of capability, and using a subset of those capabilities (enablers) to analyze China's current expeditionary stance. Then, it analyzes five expeditionary logistics models that support and sustain expeditionary operations. Finally, the monograph concludes that China does not have the capacity to sustain large-scale expeditionary operations.

Thus, research shows that China is likely to follow a familiar path towards building force projection capabilities comparable to other modern expeditionary forces if it plans to engage in more intensive, expeditionary operations. If so, China will continue on the trajectory of increasing expeditionary capabilities as displayed by the indicators highlighted in this monograph. Until then, China will not be in the position to assume a greater role globally.

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Introduction

The global financial crisis and the quest for natural resources require all nations to seek ways to protect their economic interests. In order for a country to protect its economic interests abroad, it must build an expeditionary force that is capable of performing expeditionary operations. In fact, theorists of the People's Liberation Army (PLA) believe that "the next conflict China fights will not be a total war but will most likely be a limited war of short duration and limited in geographic scope and objectives," infused with highly technological equipment.¹ As a result, China has changed its military strategy. It "is no longer focused on luring an enemy in deep to overwhelm it with mass human wave attacks." Rather, it seeks the ability to "conduct highly mobile operations and long-range precision strikes" to "meet the enemy away from its border to protect its vital economic and political centers."²

Recently, China has invested in military modernization efforts to transform its defense and logistic systems to protect its economic interests abroad. Additionally, China has launched its "String of Pearls" strategy and deployed its Navy to the Gulf of Aden as a demonstration of their increasing expeditionary capability.³ Thus, China's ability to develop expeditionary capabilities is significant to China's rise in military prowess and this may present a threat to the international

¹ James C. Mulvenon, et al, *Chinese Responses to U.S. Military Transformation and Implications for the Department of Defense* (Santa Monica, CA: RAND Corporation, 2005), 46.

² Ibid., 45.

³ "String of Pearls" is a phrase first used to describe China's emerging maritime strategy. It was coined in the report titled "Energy Futures in Asia" by defense contractor, Booz-Allen-Hamilton, commissioned in 2005 by the U.S. Department of Defense's Office of Net Assessment. Chinese "Pearls" include relationships, ports, airfields, bases, and forces projected along China's coast to the Middle East. Authors Roy D. Kamphausen and Justin Liang, "PLA Power Projection: Current Realities and Emerging Trends," in Michael D. Swaine, Andrew N. D. Yang, and Evan S. Medeiros, with Oriana Skylar Mastro, eds., *Assessing the Threat: The Chinese Military and Taiwan's Security* (Washington, DC: Carnegie Endowment for International Peace, 2007) pp. 111-50, refer to these developments as "access points" or "friendly locations."

community. As the Chinese continue to modernize, what expeditionary capabilities is it building and how is it employing them? Are there any indicators that China possesses expeditionary capabilities and have the logistical support structure to sustain its endeavors abroad? This study seeks to answer these questions.

This monograph will use a qualitative case study methodology to assess China's expeditionary capabilities. The intellectual danger of this approach is that every nation and situation is unique. Although China is more apt to adapt modernization processes comparable to other successful expeditionary forces maintained by the United Kingdom and the United States, there is no guarantee that they will do so. However, recent reports indicate that China will adopt some Western practices, which may be recognizable and used as indicators to assess its expeditionary capabilities.⁴

The analysis will consist of a review of cases to test this monograph's hypothesis, the Tsunami Humanitarian Assistance/Disaster Relief of 2004, the British invasion of the Falklands, the Sierra Leone intervention of 2000. To answer the research question, this monograph will define the terms "expeditionary capabilities" and "expeditionary logistics." Next, it will identify the problems associated with sustaining expeditionary operations, creating evaluation criteria that are the best leading indicators of capability, and using a subset of those capabilities (enablers) to analyze China's current expeditionary stance. Then, it will analyze five expeditionary logistics models that support and sustain expeditionary operations. Finally, it will determine if China has the expeditionary capability to support a brigade size intervention. The analyses of the case studies and known capabilities for successful expeditionary operations will allow this monograph

⁴ Mulvenon, et al, *Chinese Responses to U.S. Military Transformation and Implications for the Department of Defense*, iii.

to illustrate that China has not developed the expeditionary capabilities to pursue a greater role globally in the near-term. China is still coming but there is no immediate need to sound the alarm.

Literature Review

Expeditionary Operations Require Expeditionary Logistics

To determine China's expeditionary logistics capabilities, it is important to define what this task entails. The U.S. Marine Corps states, an expeditionary operation "requires the temporary creation of a support apparatus necessary to sustain the operation to its conclusion. Its doctrine ensues that logistics is a major consideration when planning out of area operations."⁵ Yet, it does not explicitly explain all that is required to support an expeditionary force, usually at a great distance away from its home base.⁶ These forces conduct operations that range in variety: humanitarian assistance in times of disaster or disruption; peace keeping; protecting and evacuating national citizens or commerce abroad; and defeating enemy armed forces.⁷ Therefore, expeditionary logistics require more than just the movement and maintenance of forces; this is only the beginning of the problem. Expeditionary support packages must meet the requirements of the forces abroad and conform to the conditions of the expeditionary operation.

A better definition of expeditionary logistics comes from a major in the United States military, someone who has experienced the U.S. modernization process in Iraq. Major Brian M. McMurtry offers this definition of expeditionary logistics, "uninhibited logistics provided by a task-organized CSS [Combat Service Support] element tailored to support maneuver elements

⁵ United States Department of Defense, *United States Marine Corps Doctrinal Publication 3: Expeditionary Operations* (Washington, DC: Department of the Navy, 1998), 6.

⁶ United States Department of Defense, *United States Joint Publication 3-0: Joint Operations* (Washington, DC: U.S. Government Printing Office, 2008) GL-13. Defines an expeditionary force "as an armed force organized to achieve a specific objective in a foreign country."

⁷ DoD, *USMC DP3: Expeditionary Operations*, 31-32.

with multi-echeloned support in a single support package.”⁸ This means that the logistics element must be as flexible and agile as the expeditionary force and it must be capable of sustaining logistical operations for its maneuver elements throughout the entire expeditionary operation. So the question is, does China possess a logistical element that can perform the above tasks? Again, to determine the capabilities a nation needs to perform expeditionary logistics, it is critical to first define expeditionary capabilities.

Expeditionary Capabilities

The conglomeration of doctrines and military leaders led to the following definition of expeditionary capabilities, “The ability to project an armed force, capable of achieving full spectrum dominance, over extended lines of communication into a distant operational area, to accomplish a specific objective.”⁹ This definition provides the minimum requirements of expeditionary capabilities. Using this definition as a base, one can conclude that the best leading indications of expeditionary capabilities are: the ability to project forces; generate trained troops; transport, supply and sustain troops and equipment into distant operational areas; and the ability to execute flexible logistical operations.

The ability to project an armed force is the bedrock of expeditionary operations. It requires the organizing, deploying, and equipping of a combat ready force. Not only is it the projection of a military force, but it is the projection of a nation’s military power. Moreover, the ability to do this rapidly, in the event of a crisis is essential, any delay could equate to a lost life or stolen goods at sea. A nation usually projects forces by air or sea, with air transport being the

⁸ Brian M. McMurry, "Expeditionary Logistics: Dawn of a New Joint Logistics Reality," *Army Logistician* 38, no. 5 (September-October 2006): 5.

⁹ Jon J. Parvin, *China's Military Modernization: Global Interests, But Not Yet Expeditionary* (Monograph, Fort Leavenworth, KS, Kansas: School of Advanced Military Studies, United States Army Command and General Staff College, 2009), 8.

most expensive, but quickest choice and sea transport being the most economical but slowest option.

Most expeditionary units are specialized, meaning they are efficient in a type of air-land or seaborne/amphibious operations warfare. They also invest hours into conducting joint operations training. In addition, the size of the unit varies, from a battalion to a division size element, possessing command and control, aviation, and combat support elements. The idea is to produce a self-sustaining unit capable of operating in all types of environments and situations.

In order for a nation to project a force over extended lines of communication into a distant operational area, a nation must plan logistical operations in advance and possess the necessary infrastructure, economic income, and civilian support to provide and sustain expeditionary logistics. Not every nation can meet these demands or support them efficiently in the time requested to conduct expeditionary operations.

Lastly, it is necessary that expeditionary forces accomplish their mission. The problem is that expeditionary operations can lead to forces deployed in overly austere or inhumane conditions. As a result, a nation's ability to execute flexible logistic plans has an advantage. Unfortunately, such skill takes much training and practice.

All of these indicators present many logistical challenges when it comes to executing expeditionary logistics. Former Assistant Chief of the Defence Staff (Logistic Operations) of the United Kingdom, David Shouesmith insists, "the modern expeditionary logistician faces three challenges,"

1. The requirement to physically acquire and move military materiel to operational theaters with the attendant risk of perceived logistical drag
2. The lack of investment in both information and physical logistics systems creating a capabilities gap

3. The lack of logistical-enabling capabilities, such as strategic lift, information systems, and equipment-support regimes designed and operated to support the flexible and adaptable forces required.¹⁰

Thus, the overall problems of sustaining expeditionary logistics are the lack of transport vehicles and/or the government's willingness or ability to invest in logistical enablers. For this study, expeditionary enablers include Joint force entry/amphibious assault doctrine; Rapid Deployable Task Force/Brigades/Battalions; Strategic lift/Air lift capabilities; Specialized Equipment (i.e. tankers for underway replenishment; heavy construction; early warning systems; aircraft carriers for air superiority and combat air patrol; and landing craft; Command and Control; Access to merchant ships/Civilian reserves for lift; War Reserves/Prepositioned Equipment; Robust Logistical Element; Qualified Personal (i.e. pilots; air traffic control; engineers; medics; airborne; air assault; crews); Communication Network; Forward Base/Seabasing Concept; Defense Infrastructure; Access to neutral ports/airfields; and Overflight rights. A nation must invest significantly, practice, and/or possess all of these enablers in order to have the capacity to support expeditionary operations. Thus, these enablers will assess China's current expeditionary stance.

Additionally, Shouesmith's suggestion of five logistic principles highlights other possible impediments to executing expeditionary logistics if not practiced:

1. Integrated planning amongst services
2. Train and budget realistic logistics-and-support training activities for expeditionary operations
3. Leverage multinational capabilities
4. Leverage industrial capabilities
5. Use every opportunity to inform domestic opinion on logistic successes to retain public support of 'wars of choice.'¹¹

¹⁰ David Shouesmith, "Logistics and Support to Expeditionary Operations," (*RUSI Defense Systems*, 2011): 27-28.

¹¹ Ibid., 28-29.

For optimal expeditionary logistics, every nation should follow Shouesmith's advice with the addition of providing forward command and control. In fact, many nations have followed these practices but the cost associated with sustaining these practices or becoming proficient in them tends to be too great. As a result, many nations perform these practices in moderation and take operational risk. Thus, those nations that practice these principles indicate that they are capable of sustaining expeditionary logistics. For example, the United States has spent trillions of dollars to maintain its air and sea power dominance over other nations, giving it a significant advantage over China, a nation that has not.¹² In addition, those nations that exhibit the use of these principles effectively abroad show that they can execute expeditionary logistics as well. Again, the United States exhibited this capability in the Gulf, Iraq, and Afghanistan Wars. An analysis of how other nations sustained expeditionary operations will be evaluated later in this study. Again, this monograph does not attempt to predict when China will possess these expeditionary capabilities but it seeks to identify those capabilities and enablers China will most likely need to conduct expeditionary operations effectively. The next section will provide an overview of several expeditionary logistics models that nations have utilized in the past to mitigate their logistical challenges.

Expeditionary Logistics Models

There are only a few sources that describe the employment of expeditionary capabilities, and more specifically, expeditionary logistics. Most of the sources derive from firsthand recollections, military doctrine, and reports from research institutions. However, these sources only describe expeditionary operations. They do not provide detail accounts of how to establish or sustain expeditionary logistics. However, the Institute for National Strategic Studies (INSS)

¹² Mulvenon, et al, *Chinese Responses to U.S. Military Transformation and Implications for the Department of Defense*, 136.

published a report that gave a synopsis of out of area case studies, which generated criteria to evaluate China's future expeditionary capabilities. This section analyzes five expeditionary logistics models.

The Leased Facilities Model

The concept of this expeditionary logistics model is to rely on commercial assess and leased sites to sustain major fleet operations. The United States 19th Century Asiatic Fleet practiced this model. This model provides an economical option for those nations without the capital or political support to invest in large establishments ashore foreign lands. Nations can also keep their ships out at sea for long periods and swap crews or individual Sailors in the midst of deployments. However, this concept requires a nation to gain access to ports and bases, and makes them dependent on host nation support for fuel, supplies, and repair facilities during hostilities or crisis, which can be limited. Other challenges that this concept does not solve include vast distances from mainland that may decrease troop morale; a restricted market of skilled labor for maintenance and repair; and the potential lack of adequate health care facilities, fresh food, and water if the host nation cannot provide these necessities.¹³

Floating Bases Model

There are multiple variations of the floating bases or seabasing model. In the Pacific Theater during World War II, the United States utilized floating bases to support and sustain its expeditionary forces. The floating bases provided "enough food to supply 20,000 personnel for 30 days and vehicles for 15 days."¹⁴

¹³ Christopher D. Yung, et al., *China's Out of Area Naval Operations: Case Studies, Trajectories, Obstacles, and Potential Solutions*, ed. Phillip C. Saunders (Center for Strategic Research, Institute for National Strategic Studies Washington, D.C.: National Defense University Press, December 2010), 22-23.

¹⁴ Ibid., 23.

Another example of floating supply bases is the sea-based anchorages that the Soviets practiced in the 1960-1970s. The sea-based anchorage concept entails the negotiation of basing rights between nations, while using tenders to serve as supply for surface combatants. The naval doctrine that they followed rested on two assumptions. First, the assumption “that the opening moments of any battle at sea would be decisive.” As a result, the Soviets believed that their expeditionary forces could survive on a less extensive logistic tail. The second assumption, based on the first assumption, was that merchant tankers would provide enough fuel to meet their expeditionary forces demands. The Soviets took advantage of commercial markets to increase their operational ability and shorten their supply lines. Commonly, floating bases demand a degree of dependency on others for support. For example, the Soviets established basing rights with Egypt and in 1971 they made 18,700 ship-hours in the Mediterranean.¹⁵ However, once the Egyptians took away these basing rights, the Soviets ability to sustain themselves abroad decreased significantly.¹⁶ However, this is a viable option for nations with limited resources and expeditionary capabilities.

Overall, the advantages of this model include shortened supply lines between a foreign country and the mainland, a flexible and responsive logistical plan; the ability to protect troops with adequate air cover; and in the case of humanitarian aid/disaster relief, this option does not undermine the host government’s authority. However, this logistical model requires an adequate amount of force protection, which consists of antisubmarine, antisurface, and/or anti aircraft capabilities, adequate air cover; and sufficient numbers of trained troops to protect valuable near shore assets. This author also recognizes that a limited amount or type of transport vehicles once ashore would challenge this model’s flexibility and/or operational reach.

¹⁵ Ibid., 25.

¹⁶ Gordon H. McCormick, *The Soviet Presence in the Mediterranean* (Santa Monica, CA: RAND Corporation, 1987), 8-16.

Floating Docks

In order to execute this expeditionary logistics model, nations construct mobile bases that serve as operational hubs and resupply points. This model allows nations “the maximum use of scarce resources without the infrastructure commitments of being situated on land and retained.”¹⁷ In essence, the force trades capacity for speed and flexibility. Yet, there are disadvantages associated with this option. The storage capacity of the ships limit the operational reach of the forces; and this fact becomes more problematic the further expeditionary forces are from their mainland. Additionally, it takes time to build or move these mobile bases once they are in operation, decreasing the flexibility and sustainability of this option. For example, the 1945 British Navy found itself “holding on by a shoestring. On multiple occasions, the British fleet could barely sustain operations . . . and often came dangerously close to running out of fuel.”¹⁸ Lastly, nations that decide to use this option will also have to rely, at least partially, on other nations (alliances) to meet their logistical shortfalls.

Island Hopping Model

The concept of this model is to move the supply depots and/or logistic bases forward with the expeditionary forces. Properly executed, this logistical operation allows a seamless flow of supplies and services to combatants and does not require aircraft carrier support. However, this option demands competent engineers to construct airbases quickly and quietly; competent Airmen; supplementary force (amphibious or airborne) to distract the enemy from the main effort or resupply efforts; adequate air power/air cover; secured airstrips or harbors nearby to maintain a

¹⁷ Chris Madsen, "Strategy, Fleet Logistics, and the Lethbridge Mission to the Pacific and Indian Oceans 1943-1944," *The Journal of Strategic Studies* 31, no. 6 (December 2008), 967.

¹⁸ Nicholas Sarantakes, "One Last Crusade: The British Pacific Fleet and Its Impact on the Anglo-American Alliance," *English Historical Review* 121, no. 491 (2006), 465.

constant flow of logistics to combatants; and long-term lease agreements between nations.

General Douglas MacArthur utilized this model in the Southwest Pacific Theater of World War II. It gave him the opportunity to maintain the initiative by seizing essential airfields and harbors at each new location.¹⁹

Main and Advance Bases/Forward Basing

Lastly, the main and advance base model is a combination of building facilities ashore (sometimes in remote places) and service support depots afloat close to the area of operations. The US Marines utilize this model and the US capitalized on this concept during its 1990-1991 Desert Shield/Desert Storm campaign. The US used Saudi Arabia as a staging base, which turned out to be very advantageous. The forward base provided the coalition with unlimited access to ports, airfields, supplies, and facilities. As a result, the coalition was able to extend its operational reach without placing a tremendous strain on its supply ships and planes.²⁰

Despite this “advantage,” the United States still had to overcome its strategic lift shortfall. In order to increase its transport capacity, it chartered 19 roll-on/roll-off cargo ships and invested in the support of foreign vessels.²¹ The British and the French suffered the same challenges, investing in foreign vessels and merchant ships to support their operations. For example, the “French had to charter 49 merchant ships and 37 B747s for deployment and sustainment operations.”²²

Thus, to use this model effectively, a nation must have competent engineers for base and airfield construction; theater opening and distribution capabilities; transport capacity—roll-

¹⁹ Yung, et al., *China's Out of Area Naval Operations: Case Studies, Trajectories, Obstacles, and Potential Solutions*, 23.

²⁰ Ibid., 28.

²¹ Ibid. 28.

²² Ibid., 28.

on/roll-off cargo ships; dry cargo ships; forces trained on joint forcible entry operations/amphibious assault; prepositioned ships; a civilian reserve air fleet; interoperability among services (multinational services as well); and alliance partners. Other necessities to complete this logistical plan may include overflight rights; aerial refueling; access to neutral airfields, ports, repair facilities, medical facilities; and a security detail/antisubmarine warfare. Many nations that utilize the floating bases concept mitigate expeditionary logistical challenges by supplanting military shipping with merchant vessels; maintaining a ready reserve of civilian aircraft; prepositioning military equipment in depots on foreign soil or waters; and practicing underway replenishment. They may also tackle command and control challenges by utilizing satellite communication on their forward deployed ships or embed liaison officers.²³ However, a lack of ships and aircraft could generate two additional conditions that impede the successful execution of this type of expeditionary logistics: limited air cover and limited capacity. It is essential that the expeditionary forces, including the logistical elements, receive adequate protection as they complete their missions. Likewise, without a large amount of transport vehicles and adequate lift capabilities, sustaining expeditionary operations could be very troublesome.

Regardless the type of expeditionary operation, all nations

must confront the multiple challenges of distance, duration, capacity, degree of coordination [whether military to military, host nation to foreign nation, or within its Services], and hostility of environment [including devastation or austerity] when they conduct out of area deployments.²⁴

Thus, a nation may choose one of the models above or a combination of the five to meet its expeditionary logistical needs. Usually, a nation's strategic aim frames its desire for expeditionary capabilities. In fact, once a nation decides that its strategic aim must include securing its interest abroad, it appears to follow a predictable pattern of progression, increasing in

²³ Ibid., 31-33.

²⁴ Ibid., 31.

expeditionary capabilities and missions.²⁵ Table 1 depicts a nation's progression in expeditionary operations.

Based on this analysis, China will continue to build expeditionary capabilities because it has already begun the process. Moreover, China's recent history has demonstrated that it has the capability to operate in stages 1-4 and will follow the same path that other nations took to increase their out of area capabilities.²⁶

Table 1. Continuum of Out of Area Operations ²⁷

Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
"Baby Steps"	Military Diplomacy	Noncombatant contingency operations	Out of area low intensity conflict	Major combat operations
Surveillance	Show the flag	Noncombat evacuation operations	Counterpiracy operations	Maritime supremacy
Reconnaissance	Port visits	Humanitarian assistance/disaster relief	Escort operations	Carrier operations
Training	Exercises with other militaries	Maritime peace- keeping	Freedom of navigation operations	Out of area antisubmarine/antisurface/anti- aircraft warfare
Experimentation		Other support missions	Maritime intercept operations	Out of area joint forcible entry operations/amphibious assault

China

China's geographic location places it in the midst of 24 countries. Furthermore, China faces instability close to its border, a constant threat of Taiwanese independence, external threats of terrorism, and is in competition with opposing powers. In addition, China's growing economy

²⁵ Ibid., 38-39.

²⁶ Ibid., 40.

²⁷ Christopher D. Yung, Ross Rustici, Isaac Kardon, and Joshua Wiseman. *China's Out of Area Naval Operations: Case Studies, Trajectories, Obstacles, and Potential Solutions*. Edited by Phillip C. Saunders (Center for Strategic Research, Institute for National Strategic Studies. Washington, D.C.: National Defense University Press, December 2010), 38.

ensures that its “energy requirements will continue to grow at a very rapid pace.”²⁸ Thus, one can expect that China will continue to invest in expeditionary capabilities to project its power and protect its interests abroad. In fact, strategists predict China’s final ascension as a major world power daily. They count every unit and vehicle that China possesses but they usually fail to include the narrative of China’s ability to sustain its forces globally. Therefore, this monograph will attempt to provide the reader with indicators that could provide a more accurate account of China’s progression towards expeditionary capabilities.

China’s Pursuit of Expeditionary Capabilities

The “modernization and the rise of China,” according to Harold Brown, is “the major new force in international relations in the first half of the 21st century.”²⁹ For many, China’s rise poses a threat, others, view it as an opportunity.

According to Dr. Martin Andrew, logistics “suffered from inadequate funding from the birth of the PLA until very recently.”³⁰ Perhaps China’s greatest fear came from the realization that it was falling behind in a global competition for military modernization, a fear that was enhanced by Beijing’s reading of the Gulf War in 1991 and Operation Iraqi Freedom in 2003.³¹ “In the 1990s, Hu and other top officials cited the U.S. Army’s Operation Desert Storm as a logistics model to emulate. They were impressed by how the United States defeated the Iraqi military in a matter of days with higher levels of technology and weaponry.”³² A decade ago, the PLA logistics doctrine did not support the soldier but made the soldier responsible or the unit

²⁸ Harold Brown, *Managing Change: China and the United States* (Santa Monica, CA: RAND Corporation, 2005), 5.

²⁹ Ibid., 1.

³⁰ Martin Andrew, “Logistics in the PLA,” *Army Sustainment* (2009), 46.

³¹ Mulvenon, et al. *Chinese Responses to U.S. Military Transformation and Implications for the Department of Defense*, 10.

³² David A. Payne, “Chinese Logistics Modernization,” *Army Logistician* (July-August 2008), 10.

responsible for all of its logistical needs. If a soldier could not carry it, he did not bring it to the front lines.³³ Now, the general logistics arm of the PLA, the General Logistics Department (GLD), supports the soldier through civilian markets.³⁴ In 2005, the GLD changed its doctrinal practices, enabling it to sustain expeditionary operations.³⁵

Dr. Martin Andrew asserts that the Chinese have changed their doctrine and organizational structure, with a new emphasis on Pei Shu, a concept of attaching troops to a subordinate unit, and Zhi Chi, a concept of support.³⁶ The change in emphasis will provide China the ability to create battle groups within its division or allow for augmentation to a division and give them the capacity to build battlefield logistics organizations that support forces forward deployed.³⁷ Similar to the US self-sustaining brigade combat team³⁸ model, China's "new combined arms mechanized corps, the logistics brigade is held at the corps level and logistics support is supplied directly to the brigades and battle groups using a 'pull system.'"³⁹ Additionally, "the new logistics brigade tasks involve providing logistics support for military operations other than war, which include flood control and resulting rescues, earthquake and disaster relief, nuclear and chemical terrorism, and counterinsurgency operations."⁴⁰ Yet, the equipment needed to support the PLA's doctrinal and organizational changes lag far behind. It is

³³ Ibid.

³⁴ Ibid. The General Logistics Department (GLD) is responsible for the sustainment of forces.

³⁵ Andrew, "Logistics in the PLA," 46.

³⁶ Ibid.

³⁷ Ibid.

³⁸ United States Command and General Staff College, *Student Text 63-1: Sustainment in the Theater of War* (Fort Leavenworth, KS, Kansas: United States Army Command and General Staff College, 2009), 2-8. The US Brigade Combat Team, created for rapid force projection, expeditionary operations. The BCT can sustain itself for 72 hours of combat, are 100% mobile (with the exception of the infantry BCT), and the entire organization and its stocks moves in a single lift.

³⁹ Andrew, "Logistics in the PLA," 47.

⁴⁰ Ibid.

in dire need of “high-mobility transportation assets, modular equipment, and automated tracking systems, and the PLA still has not developed logistics packages that can support the HBCT concept.”⁴¹ However, author David A. Payne anticipates that the PLA’s will have the capability to transport three corps of equipment, personnel, and supplies in 2012.⁴²

Creating and training new logistical concepts to support the PLA’s new structure will take much time and practice. Note, even in the United States Army, logistical concept changes have been slow. Its current doctrine of support brigades is a drastic change to the logistic operations that units practiced prior to the Gulf War. Despite the infrequent changes to logistical doctrine, the operational environment for logisticians is in a constant state of flux as logistical priorities and demands shift between war and peace.

Today, China heavily depends on Russia for its advanced weapons and defense technologies. As a result, “its relationship with Russia is the one most likely to influence the pace and scope of Chinese military modernization.” Thus, until China is willing to invest more in its own defense industries, it will remain a dependent nation, increasing in expeditionary capabilities at a dictated and known pace.⁴³ A way that China is trying to overcome its defense industry shortfall is to rely on its growing, civilian technological base.⁴⁴ However, this can prove to be problematic in cases of natural or fabricated disasters, which this monograph addresses later. The next section provides an overview of the current expeditionary capabilities of the PLA.

⁴¹ Payne, “Chinese Logistics Modernization,” 11.

⁴² Ibid., 10.

⁴³ Mulvenon, et al., *Chinese Responses to U.S. Military Transformation and Implications for the Department of Defense*, 33.

⁴⁴ Ibid., 34.

China's Expeditionary Capabilities—An Overview

The People's Liberation Army Ground Forces (PLA)

The 2010 Asian Military Balance reports, China has 1.6 million active ground soldiers⁴⁵; 278-support helicopters, 4540-personnel carriers; and 8750-light and main battle tanks.⁴⁶ In addition, the Department of Defense 2011 report to Congress informs, the PLA Ground Forces has 1.25 million active soldiers; 18-group armies; 40-divisions (infantry, mechanized, armor, artillery, airborne (3), and amphibious (3)); 56-brigades (mechanized, armor, artillery, amphibious (3); 7,000-tanks; and 8,000 artillery pieces.⁴⁷

The People's Liberation Army Naval Forces (PLAN)

In 2010, the PLAN had “the largest forces of principal combatants, submarines, and amphibious warfare ships in Asia.”⁴⁸ However, the PLAN has only a few ships that support its out of area missions. In the past, it has relied on the *Luhu-class* destroyers *Harbin* and *Qingdao*; *Luhai-class* destroyer *Shenzhen*; replenishment ships *Nancang*, *Taichang*, and *Fengchang* (and recently the *Weishanhu* and *Qinghaihu* as out of area fleet support ships).⁴⁹

According to the 2010 Asian Military Balance, the PLAN has 255-active seaman; 3-aircraft tankers; 66-transport aircraft; 61-medium landing ships; 26-tank landing ships; 19-

⁴⁵ This number appears to include reservist.

⁴⁶ Anthony H. Cordesman, and Robert Hammond. "The Military Balance in Asia: 1990-2011, A Qualitative Analysis," *Center for Strategic and International Studies*, (May 2011), 10-12.

⁴⁷ United States Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2011* (Washington, DC: Office of the Secretary of Defense, 2011).

⁴⁸ United States Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2010* (Washington, DC: Office of the Secretary of Defense, 2010), 2.

⁴⁹ Yung, et al., *China's Out of Area Naval Operations: Case Studies, Trajectories, Obstacles, and Potential Solutions*, 34.

destroyers; 52-frigates; 8-support helicopters; 11-amphibious landing craft; 20-medium landing craft; 120-utility landing crafts; 23 cargo ships; 1 hospital ship; 5-replenish oiler light vessels; 50-tankers (5 with helo capability); and 18-water tankers.⁵⁰ In 2011, China appears to be building its projection capabilities. As per the Department of Defense, the PLAN possesses 26-destroyers; 53-frigates; and 27-tank landing ships/amphibious transport docks.⁵¹ (Insufficient replenishment oilers significantly constrain the PLA's ability to sustain expeditionary operations.)

The People's Liberation Army Air Forces (PLAAF)

The Asia Military Balance reports that the PLAAF has 325-active Airman; 10-tankers; 336-transport aircraft; 56-support helicopters; and 24-utility helicopters.⁵² In comparison, the Department of Defense report states, "the PLAAF and the PLA Navy have approximately 2,300 operational combat aircraft." The PLAAF current air power stances contain 1,680-fighters; 620-bombers/attack; and 450-transport aircrafts.⁵³

Now that this monograph has provided a brief overview of China's moderation efforts and pursuit of force projection capabilities, the next section will discuss how China has employed some of these capabilities.

Chinese Employment of Capabilities

Within the last six years, China has tested the viability of its expeditionary capabilities in several ways—humanitarian/disaster relief, bilateral and multilateral exercises; and has sent its

⁵⁰ Cordesman and Hammond, "The Military Balance in Asia: 1990-2011, A Qualitative Analysis," 18-22.

⁵¹ DoD, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2011*, 75.

⁵² Cordesman and Hammond, "The Military Balance in Asia: 1990-2011, A Qualitative Analysis," 26-27.

⁵³ DoD, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2011*, 76.

fleets underway. Each mission has provided its military the ability to train its forces for traditional and non-traditional military missions. In fact, China participated in 14 bilateral and multilateral exercises in 2010: 5-counter-terrorism; 3-search and rescue; 1-ground (mountain warfare); 1-medical; 1-maritime; 1-counter-piracy; 1-ground; 1-air.⁵⁴

Sichuan Earthquake, China's Internal Disaster Relief Operation

On May 12, 2008, China experienced a deadly earthquake, 7.9 M_w that killed over 69,000 people in its Sichuan province.⁵⁵ In order to bring relief to the citizens, President Hu Jintao issued emergency relief orders to the PLA and the PLA Air Force (PLAAF). The relief effort required “expansive logistics, planning, and interservice cooperation,” which China’s military was not able to fulfill on its own. Despite pooling together the resources of the military, China had to rely on its civilian assets (i.e. Air China) and foreign assistance from the U.S., Russia, Pakistan, South Korea, Taiwan, and corporate donors (i.e. FedEx) to provide disaster relief. Narav Patel attributes the deficits in the PLA’s relief operations to “a poorly integrated command structure, aging equipment, and personnel who are not trained to deal with humanitarian and disaster relief contingencies on the scale of the Sichuan earthquake.” Moreover, his article highlights many other challenges that impeded the PLA’s ability to respond quickly. Primarily, the PLA lacks airlift assets, heavy equipment, specialized forces (brigades or divisions), and a weak defense industrial base. More airlift assets and heavy equipment could have increased the amount of aid (food, water, medical supplies, relief workers) distributed to the people, especially those located in the hardest hit or least accessible locations. According to Patel, “Roads, bridges, and tunnels were destroyed, limiting access to almost 40,000 square miles of earthquake-

⁵⁴ Ibid., 80.

⁵⁵ M_w = moment magnitude. The moment magnitude scale quantifies the size of earthquakes from minor to great, 7-7.9 M_w is major earthquake and 8 M_w and higher is a great earthquake.

devastated lands.” The lesson that the Chinese should have learned from this incident is that “the sheer mass of the workforce can [not] supplant modern capabilities such as earthmoving equipment” and lift capabilities. Moreover, the lack of strategic lift and air capabilities constrain the PLA’s ability to respond quickly, and support and sustain expeditionary operations, especially those in landlocked, austere, or devastated areas.⁵⁶

Peace Mission 2007

In July 2007, China participated in an exercise with Russia’s, Peace Mission 2007. The exercise took place in Russia’s Chelyabinsk Oblast, approximately 4354km northwest of Beijing. It was China’s first test of their Pei shu concept. The PLA deployed a composite battle group of light armor and helicopters with the ability to conduct light infantry operations, including counterterrorism, reconnaissance, and screening operations across a wide area. For this exercise, the PLA deployed—

- A wheeled mechanized infantry battalion comprising 40 type 92 wheeled infantry fighting vehicles and 15 type 92A wheeled armored personnel carriers.
- Two companies of 18 PL02 100-millimeter assault guns, each mounting an enclosed turret with a 100-millimeter cannon and a coaxial 7.62-millimeter machinegun.
- One battalion of 16 Z-9W attack helicopters.
- One battalion of 16 Mi-17 Hip multimission helicopters.
- A company of 12 ZBD-03 airborne combat vehicles, each with a mounted 30 by 165-millimeter automatic cannon and a coaxial 5.8-millimeter machinegun.⁵⁷

⁵⁶ Nirav Patel, “Chinese Disaster Relief Operations: Identifying Critical Capability Gaps.” *Joint Force Quarterly*, no. 52 (January 2009), 111-117.

⁵⁷ Andrew, “Logistics in the PLA,” 46.

More importantly, the PLA moved their entire ground force by train and the helicopters flew in from Xinjiang.⁵⁸ During this exercise, the PLA demonstrated that they could plan and deploy a substantial amount of firepower with the logistical capability to support their forces forward.

When Xinhua, an official Chinese news agency, conducted its report on Peace Mission 2007, it stated that the Chinese armed forces had “conducted 17 joint military exercises with a dozen or so countries.”⁵⁹ Now that number has risen to 44 since December 2010.⁶⁰ China has also participated in Peace Mission 2009 (with Russia) and 2010 (with Russia, Kazakhstan, Kyrgyzstan, and Tajikistan). From these experiences, China’s armed forces gained an appreciation of interservice, bilateral, and multilateral communications and cooperation; receive exposure to modern equipment; and train on a vast number of contingencies: overall enhancing their ability to perform expeditionary operations. However, most of these exercises do little to stress China’s expeditionary capabilities because it lacks air and strategic lift assets and technologies that support interoperability among its services.

Stride 2009

On August 11, 2009, the PLA launched another exercise, Stride-2009, “to test the PLA’s long-distance mobility.”⁶¹ For this exercise, China deployed over 50,000 personnel, “China’s largest-ever peacetime tactical military exercise, and its largest deployment of armor since the

⁵⁸ Ibid.

⁵⁹ *BBC Monitoring Asia Pacific*. “Expert Says SCO Drill Enhances Chinese Military's Capability,” (August 17, 2007), 1.

⁶⁰ Information Office of the State Council of the People's Republic of China, *China's National Defense in 2010*, http://www.china.org.cn/government/whitepaper/node_7114675.htm (accessed October 1, 2011).

⁶¹ Minnie Chan, “2-month Drill to Test PLA's Logistics and Mobility.” *South China Morning Post*, (August 12, 2009).

1979 Sino-Vietnamese War.”⁶² The exercise trained troops for rapid deployments to contend with unexpected conditions, especially natural disasters .⁶³ A major component of the exercise was divisional mobilization: a division from the Shenyang Military Command in the northeastern province of Liaoning traded places with a division from the Lanzhou Military Command in the northwest province of Gansu, while troops from the Jinan Military Command in the eastern province of Shandong traded places with the Guangzhou Military Command in the south. In addition, the exercise tested China’s infrastructure and capacity to support large-scale movements.⁶⁴ The PLA utilized rail, civilian airlines, and military transport fleets to provide passenger and specialist cargo flights.⁶⁵ During this exercise, the PLA’s logistical brigades demonstrated their ability to identify and outsource equipment and facilities in order to support their troops forward. One logistics brigade provided support on over 1,900 miles of road network and at elevations of 14,000 feet, while another logistical unit was required to support an invasion of Taiwan.⁶⁶ Although the exercise revealed shortfalls within the PLA’s rapid deployment practices that they were able to rectify for future contingencies, each deployment only lasted two months. Hence, the PLA did not demonstrate its ability to sustain operations of long duration.⁶⁷

“String of Pearls”

Some believe that China’s “String of Pearls” is a strategy to gain access to foreign facilities. This type of strategy would increase China’s influence from the “South China Sea

⁶² Andrew, “Logistics in the PLA,” 47.

⁶³ B. Raman, “Stride--2009---China's Largest Ever Long-Range Military Exercise,” *South Asia Analysis Group*, (August 13, 2009).

⁶⁴ B. Raman, “Stride--2009---China's Largest Ever Long-Range Military Exercise,” *South Asia Analysis Group*, (August 13, 2009).

⁶⁵ Andrew, “Logistic in the PLA,” 47.

⁶⁶ Ibid.

⁶⁷ Ibid.

through the Strait of Malacca, across the Indian Ocean, and on to the Arabian Gulf.”⁶⁸ China’s “pearls” include posts in Gwadar and Karachi, Pakistan; Chittagong, Bangladesh; Sittwe, Burma; and Salalah, Oman.⁶⁹ If China is serious about implementing this strategy, then it will need a significant amount of “blue water” capability to protect its interests abroad. However, author Andrew S. Erickson insists that China is not interested in pursuing such an expensive venture.⁷⁰

Today, whether for trade, energy, or access, China continues to engage with other nations. China continues to invest in African countries (Sudan, Angola, and Zimbabwe), downplaying genocide, corruption, and repression to meet its economic and energy demands. Additionally, China has begun to invest in Latin American and Southeast Asian countries.⁷¹ Furthermore, the Department of Defense report depicted that senior Chinese military leaders visited 25 countries in 2010 and 44 senior foreign military officials visited China, a quarter of them were from African nations.⁷² It appears that China’s need for energy resources and trade routes is the catalyst for this strategy and not pure aggression.

The Gulf of Aden

The government of China’s decision to conduct counter-piracy in the Gulf of Aden demonstrates a progression in China’s expeditionary capabilities. It was an activity that the PLA

⁶⁸ Christopher J. Pehrson, “String of Pearls: Meeting the Challenge of China’s Rising Power Across the Asian Littoral,” (monograph, Strategic Studies Institute, U.S. Army War College, July 2006), v.

⁶⁹ Andrew S. Erickson, “Chinese Sea Power in Action: The Counterpiracy Mission in the Gulf of Aden and Beyond,” in Kamphausen, Roy, David Lai, and Andrew Scobell, *The PLA at Home and Abroad: Assessing the Operational Capabilities of China's Military* (Carlisle, PA: Strategic Studies Institute, 2010), 342.

⁷⁰ Ibid., 339.

⁷¹ Paul J. Bolt and Adam K. Gray. *China's National Security Strategy* (Technical Report, U.S. Air Force Academy, Colorado Springs, CO: Institute for National Security Studies, 2007), 5.

⁷² DoD, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2011*, 82-83.

was incapable of executing before.⁷³ At sea the PLAN practiced and executed seamanship; navigation formation-keeping; command and control; sector monitoring; search and rescue; long-distance logistics; escort shipping; intra-task force supply; replenishment at sea; vertical replenishment; littoral force protection; visit board search seizure; direct action; and small boat operations.⁷⁴ The PLA met most of its replenishment and repair needs via port visits and commercial ships, demonstrating that it is possible for a nation to support expeditionary operations without forward staging bases.⁷⁵ However, China's PLAN did not engage in significant combat operations while it was in the Gulf of Aden. Even when faced with the opportunity to use force, the Chinese government decided to pay off the pirates rather than inflict harm.⁷⁶ In addition, the PLAN did not rehearse the following comparable tasks that are known for major combat operations abroad: carrier operations; air to air refueling; task force antisubmarine warfare (ASW); task force antisurface warfare (ASUW); task force antiaircraft warfare (AAW)/combat air patrol; mine countermeasures; aircraft strike; ship to shore operations (L-class and landing craft); maritime tactical control of aircraft; damage repair/salvage; ordnance reload; and chemical/biological defense.⁷⁷ If China begins to practice these tasks, it could indicate that China is ready to execute more intense expeditionary operations.

Expeditionary Case Studies

A way to test the PLA's ability to execute and sustain expeditionary operations is to compare its current expeditionary capabilities to modern nations that have recently employed

⁷³ Andrew, "Logistics in the PLA," 50.

⁷⁴ Yung, et al., 36.

⁷⁵ Erickson, "Chinese Sea Power in Action: The Counterpiracy Mission in the Gulf of Aden and Beyond," 339.

⁷⁶ Yung, et al., *China's Out of Area Naval Operations: Case Studies, Trajectories, Obstacles, and Potential Solutions*, 35.

⁷⁷ *Ibid.*, 36.

their expeditionary capabilities. This section will analyze three case studies, displaying a progression of expeditionary operations (Tsunami Humanitarian Assistance/Disaster Relief, the Falklands, Sierra Leone—NEO) and determine if China possesses the expeditionary capabilities to support these type of missions.

Case Study 1—Tsunami Humanitarian Assistance/Disaster Relief 2004-2005

Humanitarian assistance or disaster relief operations are one of the most difficult expeditionary operations to conduct because it is difficult to plan for an unknown, and most likely complex operation. The magnitude of the crisis directly affects the requirements and capabilities needed to execute this operation successfully. The environment, in this instance, definitely gets a vote, especially if a crisis lands in an impoverished country or austere location. The amount of need can overwhelm the capacity to support. An example of such a tragedy took place on December 26, 2004, when a devastating earthquake struck off the coast of India.⁷⁸ Many credit the U.S. with making Operation Sea Angel a success. Its military served as the air traffic coordinators and managers of the relief resources; brought a large quantity of strategic, airlift, and sealift capabilities, a robust maintenance program to keep the helicopters operational; had a succinct communications network; and utilized their version of seabasing to sustain operations in the Indian Ocean.⁷⁹ However, despite a “prompt and impressive” response from the global community, approximately 228,000 people died in the disaster.⁸⁰

The previous analysis of China’s internal disaster relief efforts displayed the difficulty and challenges that a nation can face during a crisis. Furthermore, it demonstrated the inadequacy

⁷⁸ Ibid., 30.

⁷⁹ Ibid. According to the authors, “The Navy’s ability to provide aid in the form of food, clothing, water, and medical treatment without a large ground presence illustrated the efficacy of the concept [seabasing].”

⁸⁰ Ibid.

of China's current logistical system. The chart (Table 2) below compares the expeditionary capabilities employed by the United States during this operation and the shortfalls that remain in China that hinder its ability to effectively conduct large-scale expeditionary operations. The chart reveals that China will face many challenges performing humanitarian assistance/disaster relief operations in non-contested environments. At best, it has developed an expeditionary capability foundation that it can develop in the future.

Table 2. Expeditionary Capabilities essential to the Tsunami Humanitarian Aid/Disaster Relief Mission

Capability	United States	China
Joint force entry/amphibious assault doctrine	Yes	Small scale amphibious assault
Rapid Deployable Task Force/Brigades/Battalions	Yes	Developing HBCT-like formations
Strategic lift/Air lift capabilities	Yes	Slowly developing, Russian systems
Specialized Equipment—tankers for underway replenishment ; heavy construction	Yes	Insignificant amounts to support large-scale internal or external contingencies
Command and Control	Decentralized forward	Centralized
Access to merchant ships/Civilian reserves for lift	Yes	Developing but currently not enough to handle large-scale contingencies
War Reserves/Prepositioned Equipment	Yes	Unknown
Robust Logistical Element	Yes	No but modernizing to support brigades
Qualified Personal—pilots, air traffic control, engineers, medics	Yes	Professionalizing its military; new pilot program, recruitment strategy; NCO education, Unknown interest in military air traffic control personnel
Communication Network	Yes	Developing satellite communication network and embedding service liaison in formations
Seabasing Concept	Yes	Developing but lacks material to support large-scale mission unilaterally (i.e. 23 cargo ships, one hospital ship)
Access to neutral ports/airfields	Yes	Limited; "String of Pearls," Africa
Overflight rights	Yes (alliances)	Government is not likely to pursue

However, some believe that the PLA will be able to perform a humanitarian assistance or disaster relief mission abroad in 2019 if they continue to modernize. They anticipate China with more expeditionary capabilities: specialized forces; Il-76MD transport aircraft; Il-78 tankers (aerial refueling); an aircraft carrier; landing platform ships; engineers with construction equipment; a hospital ship; and resupply ships, which should enable the PLA to conduct large-scale humanitarian assistance/disaster relief operations.⁸¹ Additionally, like the U.S., the Chinese could receive multinational support since they would be conducting humanitarian or disaster relief operations to aid another country, assisting them with forward basing rights. The Chinese may volunteer for this type of expeditionary mission because it usually does not demand a forcible entry, relieving the Chinese of some expeditionary challenges. Regardless, China must continue to increase its expeditionary capabilities if it plans to emerge as a world power, able to project forces globally for all types of missions.

Case Study 2—Falklands 1982

Britain's geographic location and survival instinct forces it to frequent expeditionary operations. As a result, its expeditionary logistic practices have undergone several iterations in order to mitigate problems associated with out of area operations. This second case study demonstrates how the British used a combination of main and forward bases to support its expeditionary operation in the Falklands war. Additionally, it will highlight the logistical challenges Britain faced while executing expeditionary operations.

The Falklands, approximately 8,000 miles from Britain, “are the only major island group in the South Atlantic and lays 300 miles to the east of the Strait of Magellan.”⁸² The failure of

⁸¹ Parvin, *China's Military Modernization: Global Interests, But Not Yet Expeditionary*, 44.

⁸² Gordon Smith, *Battle Atlas of the Falklands War 1982 by Land, Sea, and Air*, (Penarth: Naval-History.Net, 2006).

Britain and Argentina to find a peaceful solution as to the sovereignty of Falklands/Malvinas is the genesis of the Falklands war. In 1842, Britain “formally declared a colonial administration . . . although Argentina continued to press her claim and from 1960’s on, with increasing vigor [sic].”⁸³ Finally, in 1982, Argentinean forces went on the attack to seize the Falklands and the United Kingdom had to respond.⁸⁴

Again, the emphasis of this case study is to analyze how Britain employed its expeditionary capabilities during this conflict against Argentina. In addition, it will review some actions and the challenges of the Commando Logistics Regiment Royal Marines (CLR), the logistical element responsible for supporting the British task force, 3 Commando Brigade, 5 Infantry Brigade, and other supporting units.⁸⁵

Projecting and supporting forces in the Falklands presented a challenge. First, the policy makers in London wanted a decisive battle of short duration, defeating the Argentines before the arrival of winter.⁸⁶ Secondly, Britain was downsizing its navy and consolidating its efforts to focus on NATO requirements and Central Europe operations. In the process of change, the navy lost two aircraft carriers, a portion of its amphibious force, and the decommissioning of nine destroyers and frigates. Overall, the Secretary of Defence reduced its endstrength by 15%.⁸⁷

The downsizing left a detachment of Royal Marines on the Falklands. Yet, the Ministry of Defence wanted combat operations to commence on the islands before the logistical element

⁸³ Ibid.

⁸⁴ Ibid.

⁸⁵ Ivar Hellberg, "Falklands Logistics, Have We Learnt the Lessons and Could We Do it Again Today?" *RUSI* 152, no. 3 (June 2007), 60.

⁸⁶ Raymond E. Bell, Jr., "Joint Ground Logistics in the Falklands." *JFQ*, no. 46 (3rd quarter 2007), 132.

⁸⁷ D.A. Schrady, *Sea Based Logistics and Lessons from the Falklands*. Monterey, CA: Naval Post-Graduate School, 2000, 9.

could accumulate adequate supplies for the mission.⁸⁸ The government gave commander Thompson orders to move on 2 April without a clear mission and there was not a contingency plan for him to follow. Thompson states, “At this stage no mission was given, and the problem of translating political intent into military action, that was to persist until well after the landing on 21 May, first reared its head.”⁸⁹

The haste of the operation brought many logistical challenges. The CLR was designed to support the Commando Brigade whose mission for this expeditionary operation “was to establish a bridgehead before the Army's 5th Infantry Brigade (5th Inf Bde) arrived to help complete the recapture of the Falklands.”⁹⁰ During peacetime, the strength of the logistical regiment averaged about 600 men, maintained a headquarters, and had medical, transport, workshop, and ordnance squadrons. For the Falklands war, they received reinforcements, “including three Surgical Support Teams (SSTs) to provide the vital surgical capability to the Medical Squadron.”⁹¹ The CLR is a battalion size unit designed to support “three Royal Marine commandos (also battalion size) and the Royal artillery’s commando regiment plus an assortment of other small organic units composed of commando qualified personnel.”⁹² Instead of defaulting, this logistics regiment sustained the operations of “eight infantry battalions, two artillery battalions, a reinforced engineer battalion, numerous aviation units, and a number of smaller units to defeat a division size Argentine land force.”⁹³

⁸⁸ Bell, Jr., "Joint Ground Logistics in the Falklands," 132.

⁸⁹ Julian Thompson, *The Lifeblood of War: Logistics in Armed Conflict*. London: Brassey's (UK), 1991, 251.

⁹⁰ Smith, *Battle Atlas of the Falklands War 1982 by Land, Sea, and Air*.

⁹¹ Hellberg, "Falklands Logistics, Have We Learnt the Lessons and Could We Do it Again Today?", 61.

⁹² Bell, Jr., "Joint Ground Logistics in the Falklands," 132.

⁹³ Raymond E. Bell, Jr., "Joint Ground Logistics in the Falklands." *JFQ*, no. 46 (3rd quarter 2007), 132.

Again, all units, including logistical units, only had time to load their ships and get them underway as soon as possible.⁹⁴ The distance from the mainland demanded that the expeditionary force, especially the logistical element, deployed with its necessary supplies.⁹⁵ Moreover, the logistical element had to rely exclusively on a sea line of communication because they could not create an air bridge into the Falklands until they had seized an airfield. As a result, the ships were not combat loaded and “supplies and equipment of all kinds were dispatched to the embarkation ports without any regard to priority.”⁹⁶ Furthermore, as the military operationalized its mission, more units were added to the order of battle, increasing the need for more cargo and transport vessels.⁹⁷ Fortunately, for the British, they were able to re-stow and redistribute supplies and equipment at Ascension Island, an island that the British used as a forward staging base.⁹⁸ More importantly, the logistics regiment received their orders on 2 April and was ready to sail in three days. It took 80 hours to transfer 9000 tons of War Marine Reserve stocks from various depots by road, utilizing Army 16-ton vehicles and over 100 civilian freight vehicles, and load it onto ships.⁹⁹

Still, the re-stow at Ascension Island did not solve all of their logistical challenges. Ascension did not have a port, much less “a port with slipways to accept the roll-on-roll off (Ro-

⁹⁴ Julian Thompson, *The Lifeblood of War: Logistics in Armed Conflict*. London: Brassey's (UK), 1991, 251

⁹⁵ Hellberg, "Falklands Logistics, Have We Learnt the Lessons and Could We Do it Again Today?," 60.

⁹⁶ Bell, Jr., "Joint Ground Logistics in the Falklands," 135.

⁹⁷ Thompson, *The Lifeblood of War: Logistics in Armed Conflict*, 252.

⁹⁸ Yung, et al, *China's Out of Area Naval Operations: Case Studies, Trajectories, Obstacles, and Potential Solutions*, 26; Ascension Island is just over half way to the Falklands, south approximately 4000 miles.

⁹⁹ Hellberg, "Falklands Logistics, Have We Learnt the Lessons and Could We Do it Again Today?," 60-61.

Ro) ferries and LSLs, and room to unload most of the vehicles and stores.”¹⁰⁰ It took them 12 days to re-stow at anchor, which caused great bottlenecks at sea. Next, the British’s expeditionary footprint placed a great strain on the island’s infrastructure. On April 16, Britain made over 300 aircraft movements, setting a new world record at the Wideawake airport.¹⁰¹ Then, aviation fuel exceeded the capacity on the island. As a result, the Royal Engineers had to construct a pipeline on the island that carried fuel from the bulk fuel farm to aircraft refueling point.¹⁰²

Once the British forces landed and began operations ashore, more issues became prevalent for the combat support units. The failure to gain air superiority forced a change to their logistics concept, to include night re-supply operations and keeping non-essential ships at sea.¹⁰³ Thus, exclusively relying on sea-based logistics was infeasible; and now, they would have to offload supplies on the beach and transport those supplies inland. The altered logistics concept brought many challenges to the overall operation. For instance,

Offload was largely by barge because the helicopters were not certified to operate from the civilian ships at night. . . Breaking down containers and transferring their contents to a barge or landing craft for transport to shore in the dark was a slow process.¹⁰⁴

Moreover, storing supplies on the beachhead exposed the forces and equipment to the enemy and increased the difficulty of maintaining accountability of several shipments in the dark. Additionally, the logistical element discovered that they did not have enough assets or the capacity to sustain forces with basic supplies (ammo, fuel, and water) across land. Also, they lacked the infrastructure to transport supplies across the land, limiting the logistical element to the

¹⁰⁰Thompson, *The Lifeblood of War: Logistics in Armed Conflict*, 264-265.

¹⁰¹Ibid., 259.

¹⁰² Ibid.

¹⁰³ Schrady, *Sea Based Logistics and Lessons from the Falklands*, 13.

¹⁰⁴ Ibid., 14.

use of helicopters and landing craft as its “primary means of re-supply.”¹⁰⁵ Colonel Ivar Hellberg (Retd.) recalls, “the real difficulty was getting the fuel ashore (mostly achieved by fuel pods floated on the Mexefloats), and then transferring the fuel by hand pumps into a very limited number of jerry cans.”¹⁰⁶ As a result, the build-up of forces and supplies ashore was slow, delaying the British’s ability to gain the initiative.¹⁰⁷

Thompson writes that the logistical breakdowns were “a direct result of the lack of an overall commander in the theatre of operations to allocate priorities.”¹⁰⁸ Most of the tactical actions relied on the same helicopters needed to support logistical missions. Matters became worse on May 25 when “the Atlantic Conveyor was sunk and only one Chinook survived.”¹⁰⁹ On 27 May, two battalions “marched with all their gear 30 kilometers to Teal Inlet” because “there were too few helicopters to move them to their objective by air.” Inopportunately, another operation, Goose Green, was re-ordered for the same evening and took all available helicopter lift to support those units fighting in that battle.¹¹⁰ The effects of limited resources for the British ensued and scheduling conflicts continued for the British as the operation progressed.

Nevertheless, the British defeated the Argentinean forces because they maintained the ability to execute expeditionary logistics in the midst of adversity. From establishing a brigade maintenance area and a forward arming and refueling point, to ushering in reinforcements and moving units by sea or on foot versus by air, the British sustainers increased their forces

¹⁰⁵ Hellberg, “Falklands Logistics, Have We Learnt the Lessons and Could We Do it Again Today?”, 60.

¹⁰⁶ Ibid., 62.

¹⁰⁷ Schrady, *Sea Based Logistics and Lessons from the Falklands*, 14.

¹⁰⁸ Thompson, *The Lifeblood of War: Logistics in Armed Conflict*, 272-273.

¹⁰⁹ Schrady, *Sea Based Logistics and Lessons from the Falklands*, 15.

¹¹⁰ Ibid.

operational reach.¹¹¹ Even during their last battle with the Argentines, they delayed actions for a day to restock and still almost ran out of ammunition during the fight. However, they possessed the expeditionary capabilities to fly in supplies to their units near Mt. Tumbledown, “in conditions of darkness and a snow storm.”¹¹² The British may have had limited resources, at least to their standards, but their ability to project forces 8000 miles away from their homeland; deploy experienced units trained in expeditionary operations, and transport, supply, and sustain logistic operations demonstrated Britain’s skill in planning and executing expeditionary operations, in particular, flexible and agile logistic operations that support their expeditionary forces. According to then-Secretary of State for Defence John Nott, the British deployed over 110 ships, including “44 warships; 22 from the Royal Fleet Auxiliary (RFA); and 45 merchant ships whose civilian crews were all volunteers.”¹¹³ He also reported,

merchant shipping alone transported 9,000 personnel, 100,000 tons of freight, and 95 aircraft to the South Atlantic. The supply chain carried 400,000 tons of fuel . . . Hercules aircraft also made some 40 supply drops . . . , which entailed midair refueling in round trips lasting, in many cases, over 25 hours.¹¹⁴

Remarkably, the British accomplished this with inadequate air cover; in particular, “no early warning capability and their fighter aircraft, the Harriers, had limited endurance.”¹¹⁵ The campaign’s outcome may have ended differently if the Argentines had continuously “contested the [British’s] advance across the island to Stanley.”¹¹⁶

¹¹¹ Ibid., 16-17.

¹¹² Ibid., 19.

¹¹³ John Nott, "The Falklands Campaign." *U.S. Naval Institute Proceedings* (U.S. Naval Institute) 109, no. 5 (May 1983), 120.

¹¹⁴ Ibid.

¹¹⁵ Schrady, *Sea Based Logistics and Lessons from the Falklands*, 12.

¹¹⁶ Bell, Jr., "Joint Ground Logistics in the Falklands," 134.

The Falklands case study proves that a nation can have limited resources and lack air supremacy and still successfully execute expeditionary logistics. However, this assessment is misleading. The fact remains that Britain's Royal Navy and other assets and capabilities in this scenario far exceeded the Argentinean forces and it is more capable than the current Chinese expeditionary capabilities (see Table 3).

Table 3. Expeditionary Capabilities essential to the Falklands War

Capability	Britain	China
Joint force entry doctrine Amphibious assault doctrine	Both	Small scale amphibious assault
Rapid Deployable Task Force/Brigades/Battalions	Yes	Developing HBCT-like formations
Strategic lift/Air lift capabilities	Yes	Slowly developing, Russian systems
Specialized Equipment—tankers for underway replenishment; aircraft carriers for air superiority and combat air patrol; and landing craft	Yes but did not achieve air superiority	Insignificant amounts to support large-scale contingencies
Command and Control	Decentralized forward	Centralized
Access to merchant ships/Civilian reserves for lift	Yes	Developing but currently not enough to handle large-scale contingencies
War Reserves	Yes	Unknown
Robust Logistical Element	Yes	No but modernizing to support brigades
Qualified Personal—pilots, engineers, medics, crews	Yes	Professionalizing its military; new pilot program, recruitment strategy; NCO education
Defense Infrastructure	Yes	Dependent on a growing civilian technological base
Communication Network	Yes	Developing satellite communication network and embedding service liaison in formations
Forward Bases/Anchoring of territorial waters	Yes	Forward Bases-No Anchoring-developing
Access to neutral ports/airfields	Yes	Limited; "String of Pearls," Africa

Nott, the former Secretary of Defence, states that Britain succeeded because of its “firm resolve; flexibility of forces; equipment and tactics; human ingenuity; and well trained officers and men.”¹¹⁷ Logistically, he reported four lessons from the Falklands war: ammunition rates were higher than expected; the level of out of area logistical support requires more attention; air-to-air refueling is a keepsake for long-range operations; and civil support can provide significant resources to defense.¹¹⁸ However, Thompson insists that the former Secretary of Defence should have highlighted the vital relationship that exists between logistics and operations.¹¹⁹ Without a robust and flexible logistical system, expeditionary operations could fail before they commence. Britain was able to sustain its expeditionary operation because it focused on defending its borders and NATO, invested in forward basing, practiced an aspect of levee en mass, and it militarized its society.¹²⁰

In its present condition, the PLA does not have the capabilities to deploy and sustain trained forces, into a contested environment, at a great distance from its home. Furthermore, the British utilized a combination of the main, floating bases, and forward bases models to complete its mission. Table 3 dictates that China does not have the capacity or the doctrine, and does not possess the capabilities to implement these measures. Therefore, China will have to continue to modernize or invest in other techniques to execute expeditionary operations of similar magnitude.

Case Study 3—The Sierra Leone Intervention

The next case study will focus on how the British used a combination of the main, forward, and floating bases models to support their intervention into Sierra Leone, Operation

¹¹⁷ Nott, "The Falklands Campaign," 125.

¹¹⁸ Ibid., 133-134.

¹¹⁹ Thompson, *The Lifeblood of War: Logistics in Armed Conflict*, 287.

¹²⁰ Fry, "Expeditionary Operations in the Modern Era," 60.

Palliser in May - June 2000. Its relevance to this document is to assess the capabilities Britain employed to successfully conduct an expeditionary operation, in particular a NEO and determine if China is capable of performing a similar act.

In May 2000, the Revolutionary United Front (RUF)¹²¹ proved too much for the UN mandated Economic Community of West African States Monitoring Group (ECOMOG)¹²² and the U.N. peacekeeping force, United Nations Observer Mission in Sierra Leone (UNOMSIL) to handle and the country was on the verge of collapse. In fact, “a number of the 8,700 peacekeepers had been killed and as many as 500 detained by the rebel Revolutionary United Front.”¹²³ Sierra Leone was a hostile territory and arguable, the worst place to live in the late 1990s.¹²⁴

Initially, President Kabbah received little support from the UN, even after he complained that were demonstrating a double standard by supporting the war in the Balkans and not a crisis in Africa.¹²⁵ However, the onset of a new operational environment changed the international view of using force to resolve conflicts in Africa.¹²⁶ The Western intervention did not equate to “blatant imperialism” but to the defense of democracies.¹²⁷ It was determined that the West must intervene to sustain Kabbah’s presidency. He needed their assistance to stabilize his

¹²¹ The RUF were insurgents under the direction of Foday Sankoh and supported by then-President Charles Taylor of Liberia. Their use of child soldiers and inhumane acts triggered media attention in the West, contributing to the intervention.

¹²² The ECOMOG was led by the Nigerian Army that pulled out of the fight in 1999 when they perceived that the cost of the operation to their country far exceeded the benefits.

¹²³ Richard M. Connaughton, "Organizing British Joint Rapid Reaction Forces." *Joint Force Quarterly*, Autumn 2000, 91.

¹²⁴ Jonathan B. A. Bailey, *Contemporary Operations: Reflections on and of Empire*. Alexandria, VA: Institute for Defense Analyses, 2007, 62.

¹²⁵ Andrea Kathryn Talentino, *Military Intervention after the Cold War: The Evolution of Theory and Practice*. Athens, OH: Ohio University Press, 2005, 214.

¹²⁶ *Ibid.*, 225.

¹²⁷ *Ibid.*, 224 and 229.

government.¹²⁸ Finally, in May 2000, Britain deployed its joint rapid reaction force (JRRF) to Sierra Leone. Its mission was to conduct a forcible entry operation, take control of Lungi airport, restore order to Freetown, and conduct a NEO.¹²⁹

The JRRF, approximately formed in April 1996 under a new joint headquarters, was designed to meet all United Kingdom's "short notice, crisis action planned, military contingencies."¹³⁰ The JRRF gathered its highly capable forces from several locations. These forces maintained a very high readiness rate, trained in joint operations, and had the capability to sustain themselves. Moreover, these forces could deploy quickly in anticipation of conducting medium scale operations.¹³¹

The JRRF consisted of two echelons. The first echelon force could deploy within 48 hours, closing out deployment operations in 10 days. If necessary, a more substantial second echelon would arrive in the area of operations within 11 to 30 days.¹³² The first JRRF echelon can contain a maritime task group organized around a carrier with frigates and destroyers, cruise missile capable attack submarines, maritime patrol aircraft, mine warfare protection forces, a royal fleet auxiliary (RFA) support ships, and an amphibious task group.¹³³

Britain's operational planners incorporated options into their joint rapid reaction force doctrine with the possibility of deploying reinforcements in the second echelon to support light forces deployed in the first echelon.¹³⁴ Furthermore, Britain's planners had the fortitude to align

¹²⁸ Ibid., 229.

¹²⁹ Connaughton, "Organizing British Joint Rapid Reaction Forces," 87.

¹³⁰ Ibid., 90.

¹³¹ Ibid.

¹³² Ibid., 90-91.

¹³³ Ibid., 91.

¹³⁴ Ibid.

forces and assets in order to maximize their strategic lift, airlift, and air cover capabilities. For example, the Royal Air Force (RAF), assigned to the first echelon, provided these services for the light land forces on the ground.¹³⁵

Nevertheless, the employment of an ad hoc JRRF could be problematic without systems in place to monitor readiness and train forces to fight as a cohesive unit. Britain has incorporated these aspects into their doctrine to mitigate the possibility of deploying a dysfunctional expeditionary force. Leading up to its intervention in Sierra Leone, several British units conducted training exercises in Sierra Leone, with an emphasis on NEO.¹³⁶ In fact, Operation Palliser made the 13th joint force headquarters deployment under Britain's new organizational structure.¹³⁷ Moreover, Britain, as a former colonial power in the country, had unique relationship with Sierra Leone, which gave them the opportunity to plan future operations analyzing familiar territory.¹³⁸

The JRRF Britain deployed to Sierra Leone, commanded by Brigadier David Richards, with the intent to execute a NEO mission. However, the JRRF military leaders and operational planners knew that successful NEO operations required the seizure of airfields or ports of embarkation that would lead to the safe evacuation of personal.¹³⁹ They did not plan for nation-building following the restoration of order, which is beyond the scope of this paper.

Most of the JRRF traveled 3,500 miles to arrive in Sierra Leone, with the first echelon element arriving at Lungi Airport, then the remaining forces following suit via sea. In order to make this operation a success, Britain pooled its resources from Gibraltar, Tenerife, Mauritania,

¹³⁵ Ibid.,

¹³⁶ Ibid, 92.

¹³⁷ Ibid., 90.

¹³⁸ Ibid., 88.

¹³⁹ Bailey, *Contemporary Operations: Reflections on and of Empire*, 65.

Dakar; and its forward base in Lisbon. The supply tail consisted of Chinooks, helicopter carriers, landing ships, and replenishment vessels.¹⁴⁰

It is impressive that Britain had the ability to synchronize and pool its resources together in such a short amount of time. Troops of the first echelon forces (1 Parachute Group, which included strong special forces elements) secured the airport and were operational in Sierra Leone within 36 hours of receiving its mission orders.¹⁴¹ The JRRF had the capability to force its way into a hostile environment, evacuate 299 expatriates in the first 48 hours of operations, and provide security until the UN and Sierra Leone could restore governance in Sierra Leone.¹⁴² It is important to note that securing the populace after the NEO was an addition to the JRRF's original orders. Finally, the commandos relieved the paratroopers on May 26 and the 42 Commandos left Sierra Leone in mid-June.

In the case of Sierra Leone, Britain demonstrated that it possessed the capabilities to execute expeditionary logistics (see Table 4). It was able to project a small, specialized force into a foreign country via strategic lift; transport, supply, and sustain its forces for over thirty days; and use a combination of main, forward, and floating bases to support its expeditionary operation. Britain also had the support of the Sierra Leone government and public support in the West.¹⁴³ Additionally, the British had a force that could conduct decisive operations, led by a commander who understood mission orders and how to use it to his advantage.¹⁴⁴ More importantly, Britain's plan was robust, complex, and supported by its doctrine and infrastructure.¹⁴⁵ Britain's emphasis

¹⁴⁰ Connaughton, "Organizing British Joint Rapid Reaction Forces," 92-93.

¹⁴¹ Ibid., 93.

¹⁴² Ibid.

¹⁴³ Bailey, *Contemporary Operations: Reflections on and of Empire*, 68.

¹⁴⁴ Ibid.

¹⁴⁵ Connaughton, "Organizing British Joint Rapid Reaction Forces," 94.

on its joint operational capability (systems in place to monitor readiness and train forces for joint operations) added a degree of flexibility and interoperability between its services.

Table 4. Expeditionary Capabilities essential to the Sierra Leone Intervention

Capability	Britain	China
Joint force entry/amphibious assault doctrine	Both	Small scale amphibious assault
Rapid Deployable Task Force/Brigades/Battalions/Tailored	Yes	Developing HBCT-like formations
Strategic lift/Air lift capabilities	Yes	Slowly developing, Russian systems
Specialized Equipment—early warning systems	Yes	Insignificant amounts but acquiring more from Russia
Command and Control	Decentralized forward	Centralized
Access to merchant ships/Civilian reserves for lift	Yes	Developing but currently not enough to handle large-scale contingencies
War Reserves	Yes	Unknown
Robust Logistical Element	Yes	No but modernizing to support brigades
Qualified Personal/Specialized Forces—pilots, airborne, air assault, engineers	Yes	Professionalizing its military; new pilot program, recruitment strategy; NCO education
Communication Network	Yes	Developing satellite communication network and embedding service liaison in formations
Forward Bases	Yes	No
Defense Infrastructure	Yes	Dependent on a growing civilian technological base
Access to neutral ports/airfields	Yes	Limited—“String of Pearls,” Africa

However, the attributes and capabilities Britain utilized for this NEO are limited in the current PLA (Table 4). Primarily, the PLA does not possess a pool of specialized forces that are ready, equipped, and trained for joint operations and able to deploy and conduct expeditionary operations within 36 hours of receipt of the mission. Furthermore, China is not in the position to support an expeditionary operation that requires a significant amount of strategic lift capabilities and a trained joint task force that is capable of seizing an airport in a contested environment within 36 hours. China’s current doctrine and infrastructure does not support these capabilities nor does it entertain the use of forward basing. Could China complete an NEO? Yes but definitely not at this scale or at great distances (more than 3,500 miles) away from its mainland without

international support. Therefore, China will need to invest, practice, and or possess additional expeditionary capabilities in order to execute an expeditionary operation similar to the one described in this case study.

Conclusion

Although China has undergone decades of modernization, particularly within the PLA, it currently does not possess the logistical support structure to support and sustain intensive expeditionary operations in the near-term. Expeditionary operations range from humanitarian assistance to forcible entry operations that require expeditionary capabilities. Primarily, these expeditionary capabilities include the ability to project forces; generate trained troops; transport, supply and sustain troops and equipment into distant operational areas; and execute flexible logistical operations. In addition to these baseline expeditionary competencies, forward deployed, command and control and communication networks are essential for functional expeditionary operations. Moreover, there are critical logistical enablers that directly affect the capacity in which nations can employ their expeditionary capabilities. These enablers include Joint force entry/amphibious assault doctrine; Rapid Deployable Task Force/Brigades/Battalions; Strategic lift/Air lift capabilities; Specialized Equipment (i.e. tankers for underway replenishment; heavy construction; early warning systems; aircraft carriers for air superiority and combat air patrol; and landing craft; Command and Control; Access to merchant ships/Civilian reserves for lift; War Reserves/Prepositioned Equipment; Robust Logistical Element; Qualified Personal (i.e. pilots; air traffic control; engineers; medics; airborne; air assault; crews); Communication Network; Forward Base/Seabasing Concept; Defense Infrastructure; Access to neutral ports/airfields; and Overflight rights. From the least intensive (non-contested) to the most taxing expeditionary operations (forcible entry), this study demonstrates that China only possesses the shell to conduct expeditionary operations, a small contingency effort. It has limited capabilities, as evident in its investment, practice, and ownership of logistical enablers. Indeed, the cost associated with

procuring and maintaining these capabilities can be significant. Therefore, China, like many other nations, must be selective with the allocations of dollars within its defense budget. As a result, it will accept some operational risks in the execution of expeditionary operations.

The selective process gives relevance to this monograph. China has displayed a slow but steady increase in its strategic lift capabilities and has made some modifications to its force structure and logistical practices. Yearly, China has increased the number of joint and multilateral exercises and engagements with other nations. Furthermore, it continues to acquire modern equipment from Russia and civilian technological bases within its own country. Despite these modifications, recent exercises and operations that the Chinese have conducted demonstrate that it still does not have access to adequate lift capabilities, specialized forces, or the logistical structure to support and sustain expeditionary operations without facing many logistical challenges—shortages of transport vehicles, equipment, and qualified personnel. Moreover, the government does not support forward basing or decentralized command and control of its forward deployed leadership. Thus, a change in China's expeditionary capacity will indicate if they are progressing towards a more intensive, expeditionary force or maintaining a small expeditionary force as a measure to secure interests abroad.

This monograph evaluated five expeditionary logistics models (leased facilities, floating bases, floating docks, island hopping, and main/forward bases) and analyzed three case studies that progressed in expeditionary operations. The United Kingdom and the United States both used a combination of the above expeditionary logistic models to support their missions abroad and both nations had access or possessed expeditionary capabilities and enablers to support and sustain their expeditionary operations. Although China is more apt to adapt modernization processes comparable to other successful expeditionary forces maintained by the United Kingdom and the United States, there is no guarantee that they will do so. However, research indicates that China will follow a familiar path towards building force projection capabilities comparable to modern expeditionary forces if it plans to engage in more intensive, expeditionary

operations. If so, China will continue on the trajectory of increase expeditionary capabilities, displaying indicators highlighted in this monograph. Until then, China will not be in the position to assume a greater expeditionary role in the near-term.

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